	Application No.	Applicant(s)
Office Action Summary	10/562,012	FURUSHIMA ET AL.
	Examiner	Art Unit	
	CHENG-YUAN TSENG	2184	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>08 September 2009</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>4-14</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>4-14</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>23 December 2005</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____.

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. <u>10/20/2009</u> .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114,
including the fee set forth in 37 CFR 1.17(e), was filed in this
application after final rejection. Since this application is
eligible for continued examination under 37 CFR 1.114, and the
fee set forth in 37 CFR 1.17(e) has been timely paid, the
finality of the previous Office action has been withdrawn
pursuant to 37 CFR 1.114. Applicant's submission filed on
September 8, 2009 has been entered.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which
forms the basis for all obviousness rejections set forth in this
Office action:

   (a) A patent may not be obtained though the invention is not identically
   disclosed or described as set forth in section 102 of this title, if the
   differences between the subject matter sought to be patented and the prior
   art are such that the subject matter as a whole would have been obvious at
   the time the invention was made to a person having ordinary skill in the
   art to which said subject matter pertains. Patentability shall not be
   negatived by the manner in which the invention was made.

3.   Claims 5-13 are rejected under 35 U.S.C. 103(a) as being
unpatentable over Yuen et al. (U.S. Patent 6,850,808),

hereinafter referred to as Yuen, in view of Beck et al. (U.S.

Patent 6,826,432), hereinafter referred to as Beck.

　　　Referring to claim 5, Yuen discloses **a peripheral device
for a programmable logic controller** (fig. 2, programmable logic
controller 22 with server computers 24), comprising:

　　　a processor (fig. 2, processor 26); and

　　　a memory (fig. 2, memory 28) storing **software modules** (fig.
2, control program 34; fig. 5, automation desktop), the software
modules comprising:

　　　a search and determination means (fig. 5, automation
desktop; fig. 3, repository 50 for searching by automation
desktop; fig. 5, template library 208 used by automation desktop
for searching) for searching the instruction table for **an
instruction in a code in a portion of a sequence program** (fig.
3, project contains objects, objects contains instructions)
selected as diversion data **from an existing diversion-source
sequence program** (fig. 3, library 60 of objects), to **determine a
corresponding input/output type of a parameter** (fig. 3,
determines from control variables of templates 70; col. 5, lines
39-40; note: also see below for determining the control
identifier in view of Beck) for the instruction;

a **component data creating means** (<u>fig. 3, wrapper program</u>
<u>90</u>) for **creating a variable data table** (<u>fig. 7, block 326,</u>
<u>record new version of template</u>) by replacing the determined
corresponding input/output types stored in the search result
table with variable names, and for creating **component data** (<u>fig.</u>
<u>6, create compound object 232</u>) by adding the corresponding
variable names to variables and to circuit information; and

a **component data diversion means** (<u>fig. 6, system equipment</u>
<u>hierarchy</u>) for diverting the component data into **an arbitrary**
position in a designated sequence program (<u>fig. 8, Kam & Joe's</u>
<u>plant 660</u>).

Yuen does not expressively disclose an instruction table
for storing instructions and storing corresponding input/output
types of parameters for the instructions; and a search result
creating and storing means for creating and storing into a
memory a search result table by combining an address in the code
in the selected portion of the sequence program, with the
determined corresponding input/output type.

However, Beck discloses **an instruction table for storing**
instructions (<u>fig. 1, module table 1.10, each module contains</u>
<u>multiple instructions</u>) and **storing corresponding input/output**
types of parameters (<u>col. 5, lines 56-61, an identifier of</u>
<u>input-output type module; the identifier is stored for</u>

identifying the modules) for the instructions; and **a search
result creating and storing means** (col. 14, lines 3-15, analysis
means extracts the identifier) for creating and storing into **a
memory** (col. 14, lines 3-15, temporarily stores into memory
means) **a search result table** (col. 14, lines 3-35, a table
extract from instantiation table 4 and configuration table 5) by
combining an address (col. 14, lines 16-35, replace structural
symbolic input-output variables with exact topological address
by the determination of analysis means) in the code in the
selected portion of the sequence program, with the determined
corresponding input/output type.

Yuen and Beck are analogous art because they are from the
same field of endeavor in automation application programmable
logic controller.

At the time of the invention, it would have been obvious to
a person of ordinary skill in the art, having the teaching of
Yuen and Beck before him or her to modify the programmable logic
controller automation desktop of Yuen to include the module
tables of Beck, thereafter the automation application can
manipulate data being exchanged between an application program
and channels of input-output modules in a symbolic form using
module tables (col. 2, lines 16-23).

     The suggestion/motivation for doing so would be eliminating
the disadvantage of application program depending on the
physical location of the modules (col. 2, lines 4-14) as
suggested by Beck.

     Therefore, it would have been obvious to combine Yuen with
Beck to obtain the invention as specified in the instant
application claims.

     Referring to claims 7 and 13, they recite the corresponding
limitations of claim 5 as set forth above. Therefore, they are
rejected accordingly.

     As to claims 6 and 8, Yuen discloses the peripheral device
for the programmable logic controller according to claim 5,
further comprising: **a sequence-program-component storing means**
(fig. 2, memory 44) for storing into a component storage the
created component data as a sequence program component; **a
sequence-program-component displaying device** (fig. 1, computer
display 25) for displaying the sequence program components
stored in the component storage; **a sequence-program-component
selecting means** (fig. 4, automation desktop 200) for selecting a
desired sequence program component from the sequence program
components displayed by the sequence-program-component

displaying device; and **a sequence-program-component diversion means** (fig. 2, operating system 36) for diverting the selected sequence program component into a new sequence program.

     As to claims 9, 10 and 13, Yuen discloses the peripheral device for the programmable logic controller according to claim 5, wherein the input/output types of the parameters for the instructions comprise **an input type, an output type, and an internal type** (col. 3, lines 21-27, programming language variables has read/write/local variables).

     As to claims 11-12, Yuen discloses the peripheral device for the programmable logic controller according to claim 5, wherein **a user selects the portion of the sequence program** (fig. 8, automation desktop 600 is a user application) from the existing diversion-source sequence program being displayed.

                    Response to Arguments

4.   Applicant's arguments filed on September 8, 2009, regarding the 35 U.S.C. §102 have been fully considered, but they are not deemed to be persuasive, or moot in view of new grounds of rejections.

Applicant argues that the cited prior art does not disclose "a search and determination means for" (pages 8-9).

Examiner respectfully disagrees with Applicants, because the claim is considered as an algorithm or software modules executed by controller. Since the claim is considered invoking 35 U.S.C. 112, para. 6, the corresponding structure, material, or acts and equivalent thereof is the disclosed algorithm. In instant application, the software based Automation Desktop of Yuen performs the claimed "means for" functions. The cited Yuen in view of Beck discloses an automation desktop application for searching the programmable logic controller modules and replacing corresponding symbolic variables of each determined module with new binding addresses etc.

Conclusion

5.   The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See M.P.E.P 707.05(c).

  US Patents

- Noda (U.S. Patent 5,920,717) discloses method and apparatus for automated program-generation.

- Coburn et al. (U.S. Patent 6,618,856) discloses simulation method and apparatus for use in enterprise controls.

6.   The examiner requests, in response to this office action,
support be shown for language added to any original claims on
amendment and any new claims. That is, indicate support for
newly added claim language by specifically pointing to page(s)
and line number(s) in the specification and/or drawing
figure(s). This will assist the examiner in prosecuting the
application. When responding to this office action, applicant
is advised to clearly point out the patentable novelty which he
or she thinks the claims present, in view of the state of art
disclosed by the references cited or the objections made. He or
she must also show how the amendments avoid such references or
objections. See 37 C.F.R. 1.111(c).

     In amending in reply to a rejection of claims in an
application or patent under reexamination, the applicant or
patent owner must clearly point out the patentable novelty which
he or she thinks the claims present in view the state of the art
disclosed by the references cited or the objections made. The
applicant or patent owner must also show how the amendments
avoid such references or objections.

Contact Information

7.   Any inquiry concerning this communication or earlier
communications from the examiner should be directed to examiner
Cheng-Yuan Tseng whose telephone number is (571)272-9772, and
fax number is (571)273-9772. The examiner can normally be
reached on Monday through Friday from 09:00 to 17:30 Eastern
Time. If attempts to reach the examiner by telephone are
unsuccessful, the examiner's supervisor, Dr. Henry Tsai can be
reached on (571)272-4176. The fax phone number for the
organization where this application or proceeding is assigned is
(571)273-8300. Information regarding the status of an
application may be obtained from the Patent Application
Information Retrieval (PAIR) system. Status information for
published applications may be obtained from either Private PAIR
or Public PAIR. Status information for unpublished applications
is available through Private PAIR only. For more information
about the PAIR system, see http://pair-direct.uspto.gov. Should
you have questions on access to the Private PAIR system, contact
the Electronic Business Center (EBC) at (866)217-9197 (toll-
free). If you would like assistance from a USPTO Customer
Service Representative or access to the automated information
system, call (800)786-9199 (IN USA OR CANADA) or (571)272-1000.

/Cheng-Yuan Tseng/

Patent Examiner, AU 2184